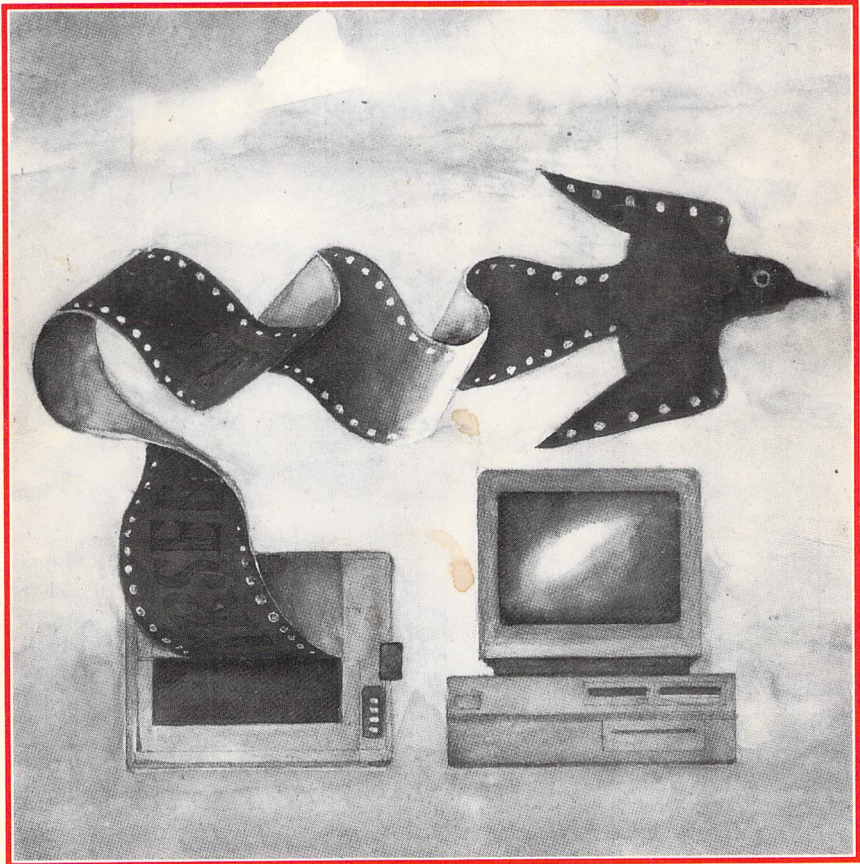


TURBOPRINT

Professional



IrseeSoft

AMIGA®

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IrseeSoft

TURBOprint Professional *AMIGA*®

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Translation from the German original by David Parrot.

IrseeSoft TURBOprint Professional Amiga

Programmed by Stefan Donhauser and Florian Zeiler

We should like to congratulate you on choosing this top-quality product and at the same time we would like to express our thanks for the confidence which you have placed in IrseeSoft. We are confident that our product will not disappoint you. From this moment on, your Amiga and printer team is unbeatable – thanks to TURBOprint your printer can finally show its true mettle!

We wish you plenty of enjoyment and top-class printing when you use TURBOprint Professional.

F. Zeiler

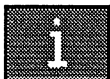
S. Donhauser

Important note:

TURBOprint must not be used in conjunction with important data or programs not yet saved on disk. Always save your data prior to installing TURBOprint or commencing a printout.

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1. Interesting facts about TURBOprint

What is TURBOprint Professional?

TURBOprint has been developed to enable your printer's previously ignored graphic capabilities to be used to the full. The normal printer drivers cannot cope with reproducing such images on the printer; this is particularly so with Amiga, the distinctive screen graphics of which are multicoloured, brilliant and clear.

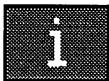
Only with TURBOprint can graphic printouts hope to match screen quality. To this end, special graphic algorithms based on professional printing-industry processes have been created for TURBOprint in order to convert graphics to your printer to best effect.

TURBOprint also offers you a range of possible variations, from the varied size definition, the almost perfect colour adjustment, to the contrast and brightness adjustments, including smoothing functions, colour pattern selection and much more.

Of course the highest computational speed possible was particularly important in TURBOprint's development, as was a low memory demand. So as to realize these objectives, the main program has been written in 68k Assembler, Amiga's fastest and most efficient programmable language.

TURBOprint is installed into the Amiga's memory with reset-proof features, functioning unobtrusively in the background. As it replaces the Amiga printer interface specific to the workbench, all printouts produced by programs using the workbench interface are automatically accepted by TURBOprint. As a result, compatibility and easy use for almost all programs are guaranteed.

An individual setting program (TurboPrefs) which can also be installed to be reset-proof and which can always be called up instantaneously at the touch of a button without reloading is available for the entire range of possible adjustments.

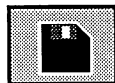


1. Interesting facts

What else can TURBOprint do?

In addition to the excellent printing features and the high print speed, TURBOprint is designed to simplify work using the printer and to provide a multitude of additional aids.

It is possible to use certain key combinations to enable TURBOprint, for example, to produce directly a hard copy of the current screen or to store a section of screen as IFF graphics on disk, which can then be reprocessed based on any of Amiga's paint programs.



2. Installing and starting up TURBOprint

The ReadMe text supplementing the manual

This section contains information and other notes on printer drivers. The ReadMe text is on the TURBOprint disk and is displayed by clicking the mouse twice to the ReadMe symbol. You should read this text before using TURBOprint for the first time.

First-time use of TURBOprint

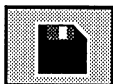
Before loading TURBOprint for the first time you should make a copy of the TURBOprint disk.

Important: we recommend to use the workbench disk backup and not to rely on another copy program. Unfortunately Amiga may suffer a system crash if two identical disks are inserted in different drives at the same time. On the other hand, no problems arise if the copy is made using the workbench copy function.

To make a working copy

- Load the workbench disk
- Insert the TURBOprint disk
- Wait until the "TURBOprint" disk symbol appears
- Use mouse to click symbol selection. The disk symbol should now change colour.
- Call up the "Duplicate" function from the workbench pulldown menu.

Workbench	Disk	Special
Open		
Close		
Duplicate		
Rename		
Discard		



2. Installing and starting up

- Now follow the computer's instructions:

Please insert volume Workbench in any drive	
RETRY	CANCEL

- Insert workbench (copy program being loaded)

Put Turboprint (FROM disk) in drive DF0:	
CONTINUE	CANCEL

- Insert TURBOprint. The write protection switch has to be on (top right hole in the disk is free).
- Select "Continue". Data now being read from the disk.

Put DESTINATION disk (TO disk) in drive DF0:	
CONTINUE	CANCEL

- Insert empty disk for working copy. The write protection switch on this disk has to be off!
- Select "Continue". Data now being copied on to inserted disk.

These last two steps have to be repeated several times before the computer indicates **"disk copy completed"**.

The copy is now called "copy of TURBOprint" and has to be renamed "TURBOprint". To do this, use the mouse to select the "copy of TURBOprint" disk symbol. Now select "Rename" from the

2. Installing and starting up



workbench menu and a window will appear on the screen with the name of the disk. Press "Delete" key several times to erase the first part "copy of", resulting in only the word "TURBOprint" remaining in the field.

Important: there must be no spaces in front of "TURBOprint", i.e. the cursor ought to rest finally on the "T". Now you can remove the copy from the drive and label it. Also write on the copy the original disk's copyright note and the Serial No. You should use the copy rather than the original disk to perform each of the following installation procedures.

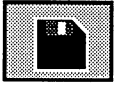
Setting the printer

Now re-insert the copy just made into the drive and call up the disk directory by clicking the disk symbol twice. This directory includes, for example, the "TurboPrefs" program which is used to carry out the necessary adjustments. If you load TurboPrefs, an info-screen with the master menu on the right will initially appear. This is where you select the button with the printer symbol at the top left. The printer driver has to be set in the printer menu now appearing (see page 15 for "Printer driver selection"). You can also alter the other settings as you see fit. All the alternatives are described in the "TurboPrefs" section. You should then use the "SAVE" function to store the values set on the TURBOprint copy.

TURBOprint can now be installed using the "OK + EXIT" button (see "Starting up TURBOprint") or use "EXIT" to exit. If everything is set correctly, it should be possible to produce successfully the first screen hard copy. Page 54 has all the relevant details – see "Hard copy function".

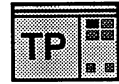
Starting up TURBOprint

TURBOprint has to be installed before it can print. You can either boot from the TURBOprint disk or, if the workbench is already loaded, you can call TURBOprint via the workbench. To start TURBOprint from the workbench, you must load the TurboPrefs



2. Installing and starting up

program. Now click the "OK" field on the screen at the bottom right. Then the required program components (printer driver, hard copy, etc.) are reloaded and TURBOprint installed with reset-proof features.

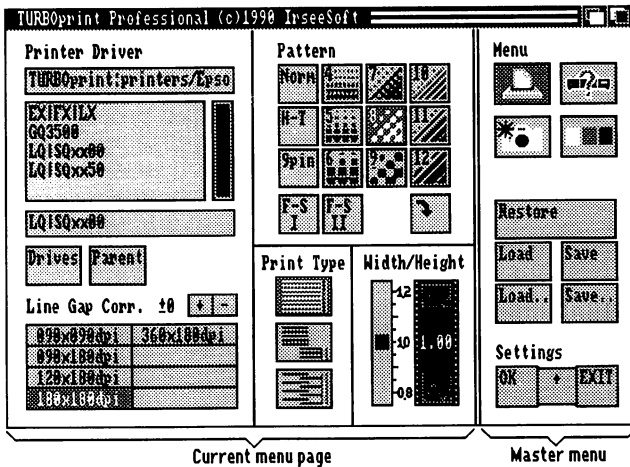


3. The TurboPrefs setting program

TURBOprint replaces the Amiga printer interface for text and graphic functions. Complete compatibility and extent of commands for the workbench standard interface printer function have been ensured.

The TurboPrefs adjustment program can be used to gain access to each and every function, e.g. selecting the printer, switching the hard copy function on and off, and changing any other print parameter.

TurboPrefs is located on the TURBOprint disk and can be started by the workbench user interface by clicking the "TurboPrefs" symbol or started by CLI by inputting "TURBOprint:TurboPrefs".



TurboPrefs settings are available via a mouse controlled full-screen menu. The TurboPrefs screen is made up of 2 sections: the master menu on the right and the current menu page on the left. Various buttons are located in the master menu, directly accessible from every TURBOprint Professional menu level.

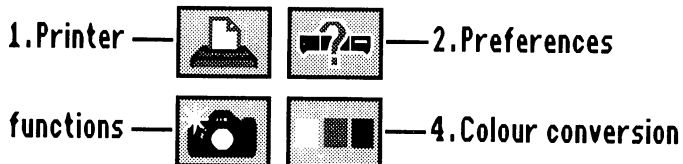


3.0 The master menu

3.0 The master menu

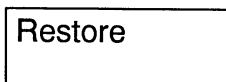
The master menu has the following options:

Menu pages



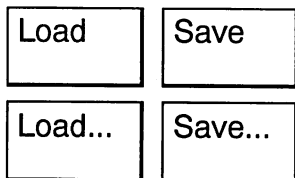
These switches can be used to change from one of the TURBOprint Professional menu pages to the other. The switches are identifiable by means of the following graphic symbols: "printer", "preferences", "camera" and "colour surfaces", the possible settings on each particular menu page being represented by symbols.

Restore



This switch is used to undo each change in a menu page which has been made since you called it up.

Load/Save



For loading and saving the current settings. "Load" is used for the standard settings which are also automatically loaded when the TurboPrefs program is called up, as long as TURBOprint has not yet been installed. "Save" is used for the current settings, saving them as new standard settings.

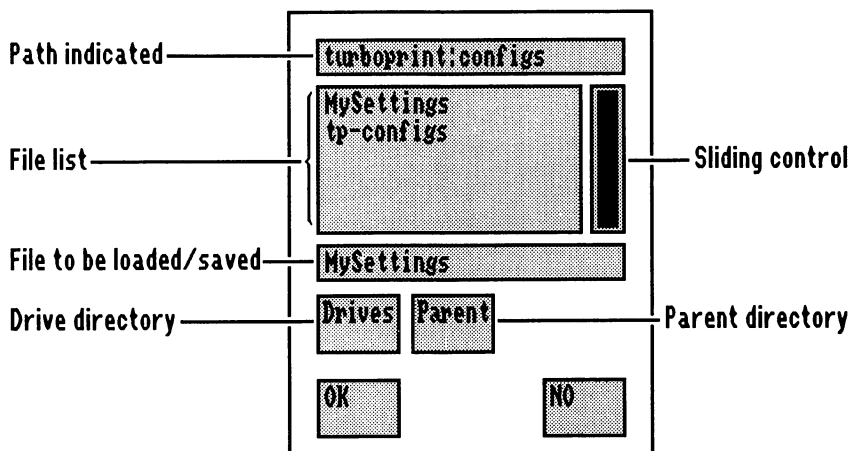
3.0 The master menu



The file

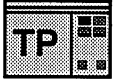
`Turboprint:Configs/tp-config`
contains the basic settings.

"Load..." and "Save..." can also be used to save the adjustments under another name and to reload them, for example, so as to call up complete settings for different printers. When calling up Load or Save, a file selection window will appear in which the desired file name is chosen or input.



This is where you can select an existing file by clicking the mouse at a file name or by inputting a new file name in the name field.

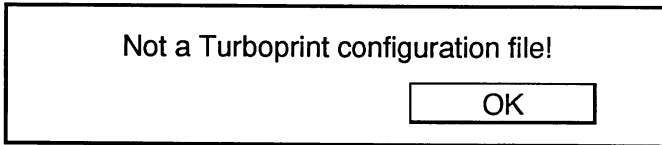
To alter the drive or the directory path, either the entry of the path field can be changed directly or a sub-directory or drive can be selected in the selection window (sub-directories always appear in square brackets). The "Parent" switch enables you to return to the parent directory, the "Drives" switch is used to obtain a list of all the drives and hard disks connected up.



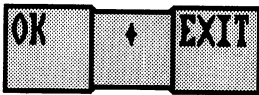
3.0 The master menu

Press "OK" to load or save the settings of the file indicated, "CANCEL" cancels the process.

If you attempt to load a file which is not a TURBOprint configuration file, the following error message will appear



OK + EXIT settings

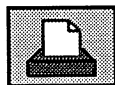


"OK" is used to accept each and every setting and – for first-time use – TURBOprint is installed so as to be reset-proof.

The menu is still active. You can, for example, now switch the TurboPrefs window or the workbench screen to the back and print using another program or make a hard copy. "EXIT" can be used to exit TurboPrefs without accepting the settings.

The "+" switch is like an "OK + EXIT", the menu is therefore exited with the new settings having been accepted.

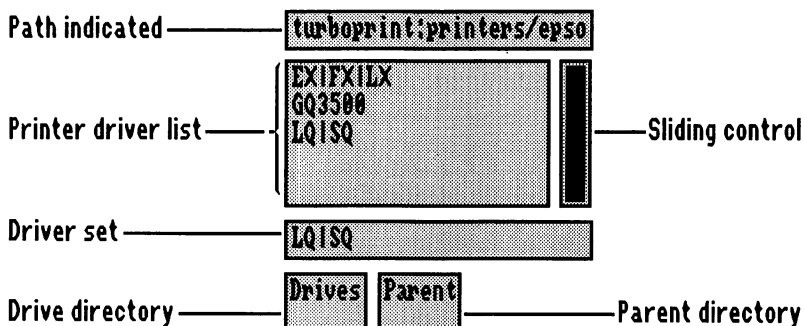
3.1 Printer settings



3.1 Menu page 1: Printer settings

Printer selection field

You must choose the suitable driver for your printer in the printer selection field or, if your printer is not listed, you must choose a driver compatible with your equipment (please see also the "ReadMe" supplementary text on the TURBOprint disk).



All the printer drivers can be found in various "drawers", arranged according to printer manufacturer. You will see the printer driver just set in the display field below the printer list.

If the driver desired cannot be found in the current drawer, press the "Parent" switch so as to change over to the parent directory. You now get a list containing every available drawer. Drawers are identified by square brackets.

If you select a drawer contained in this list, the drivers located here will be listed. The sliding control to the right of the list can be used to leaf through the list of printer drivers. Simply use the mouse to click the driver name in order to select a specific driver. This will appear automatically in the name field at the bottom.

Drives or hard disks available are listed if the "Drives" switch is selected. You can then change to a different drive or to another disk and select a drive from there.



3.1 Printer settings

Resolutions

090x090dpi	360x180dpi
090x180dpi	360x360dpi
120x180dpi	
180x180dpi	

The available printing densities of the driver selected are listed in the "Resolutions" selection field. They are given in dots per inch (1 inch = 2.54 cm). For instance, if the "120x180dpi" is chosen, the first number indicates the horizontal dot density, the second one the vertical dot density.

When printing in grey-scale, it is not always advisable in the case of dot-matrix printers to choose the highest printing density, since the dots overlap and the grey pattern's effect is lost.

The highest resolutions have been specially designed for graphics comprising thin lines (e.g. in CAD applications) and graphic fonts. Of course, the amount of time involved for the printout also rises with the printing resolution.

Line gap correction

This function can be used to correct the line gap in micro steps.

Line Gap Corr. ±0

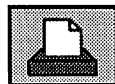
As a result you are able to correct the printer's imprecise paper feed. When setting +/-0 the line gap is not corrected.

If consecutive print lines overlap, use the "+" key to increase the value until the lines no longer overlap. If white stripes remain between the lines, you can use the "-" key to reduce the gap. Line gap correction is only initiated for certain printers. Please find more information in the "ReadMe" text.

Using the workbench drivers

TURBOprint does not only function in conjunction with drivers on

3.1 Printer settings

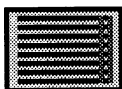


the TURBOprint disk, but also with the 1.2 workbench version (not 1.3 or higher) printer drivers. If you wish to use such a driver, the path name in the printer's selection field has to be reset. This name is found above the printer list.

You can either use the mouse to click the path name and use the keyboard to alter it, or you can use the "Drives" switch. Instead of the printer list, a list of the possible floppy and hard disk drives appears, from which the desired driver may be selected.

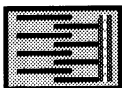
Print type

The print type setting is only designed for dot-matrix printers and is only effective when used in conjunction with them. There are three different printing process settings:



Normal mode

In this mode, all the printer's pins are controlled at the same time. The normal mode is a standard setting and results in a graphic printout being produced faster than with other printing modes.



Half-line mode

When using a matrix printer, more or less noticeable stripes are produced between the lines printed (depending on the individual printer). The reason is that the ribbon's ink saturation towards the ribbon edge decreases and the roller mechanism does not function accurately enough with the result that feed between the lines becomes too large or too small.

The resultant stripes ought to be weakened by means of a special printing technique, the half-line mode, which entails using only half of the available pins to print, with the pins being specially arranged at half-line intervals in the various printing cycles. As a result, there is better ribbon utilization and bright stripes between 2 lines are



3.1 Printer settings

covered by an additional printing line.

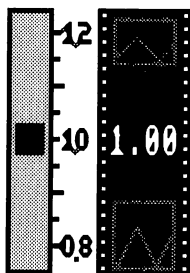
The disadvantage of this printing process is the greater amount of time involved since there are twice as many print cycles needed. It is therefore recommended that sample printing always be performed in the normal mode and that the half-line mode only be used if a higher printing quality is required. The print quality of half-line mode is better than that of the normal print mode, particularly when a fairly old ribbon is being used.



Lower pin count

In various dot-matrix printers the printouts are also very striped in effect because the amount of electricity supplied is not sufficient to cause every pin to make impact at the same time and the print therefore becomes very uneven. This particular printing mode remedies such a problem since it uses only 2/3 of the pins available. The print lines are not specially overlapped.

Height-width ratio



The "Width/height" switch affects the height-width ratio when the graphic is produced. The printout can be extended or squashed to an extent so that, for example, circles on the screen are not reproduced as ellipses on the paper.

The fraction indicates how large a pixel's width is (with a 320x200 resolution) compared to its height.

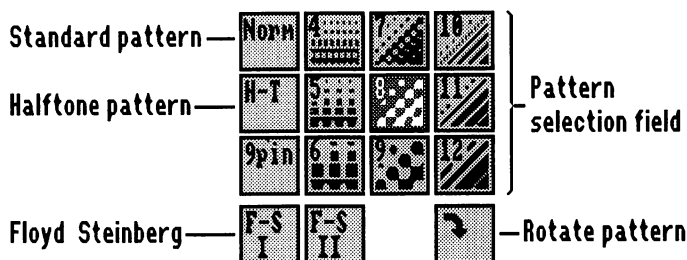
3.1 Printer settings



TURBOprint ensures the same ratio of width to height on the printout. Slide the control down to make the image higher, slide it up to make it lower.

Colour/grey pattern

Since the Amiga can depict 4096 different colours, but the printer normally only has black or 4 colours at its disposal, the colours and the different brightnesses on the printer have to be produced by mixing and arranging them suitably to create a pattern. 12 different print patterns and 2 Floyd-Steinberg conversions are available for the purposes of colour conversion.



By using each particular pattern, various effects can be produced on the graphic printout, depending on the print resolution. For instance, a printout with low print resolution often looks very good in conjunction with the normal colour pattern. But if higher resolutions (e.g. larger than 140dpi) are chosen, the colours or grey hues become darker and the whole picture is less varied in contrast. It is thus necessary for high printing resolutions that a loosely composite grey pattern be chosen in order that the colours do not run into one another too much. The same printout which does not yield the desired effect with a normal pattern, has a brighter and more contrastive effect if, for example, the sloping stripe pattern is used.

The Floyd-Steinberg conversion process (switches "F-S I" and "F-S II") distributes the dots randomly, unlike the 12 regular print patterns. The advantage is that it is no longer possible to identify

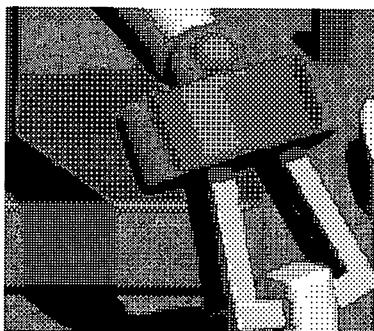


3.1 Printer settings

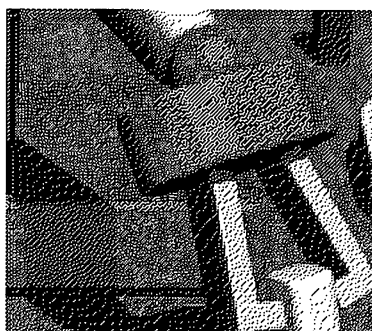
any one pattern. Because the dot distribution, calculated by the Floyd-Steinberg algorithm, requires a high computational time, the printing time increases when using this colour conversion method. The "F-S II" pattern has been designed to be somewhat more dispersed and is suitable for high resolutions.

If the "Rotate pattern" switch is activated, the pattern is rotated clockwise through 90 degrees. This is especially useful in the case of diagonally striped patterns.

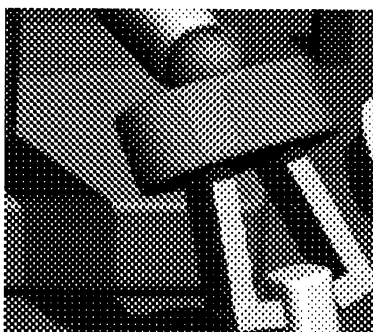
Examples of different patterns (illustrations magnified)



Normal pattern



Floyd-Steinberg (F-S I)



Pattern No. 9

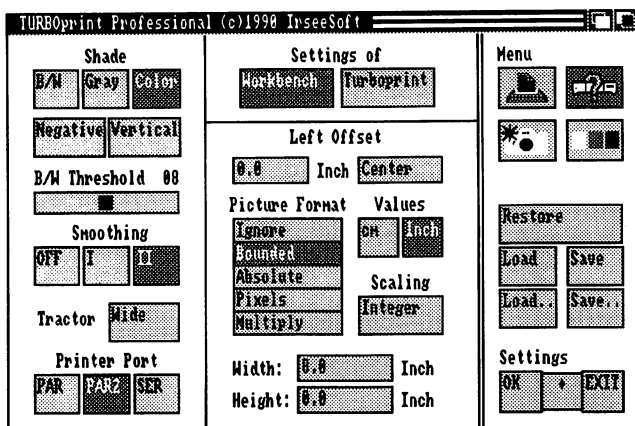


Pattern No. 12

3.2 Preferences



3.2 Menu page 2: Preferences

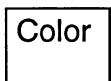


All the settings which can also be set by the workbench preferences and, to an extent, by other programs (except for PAR2 and Smoothing II which are special additional TURBOprint functions) are set out on this page. These settings are normally loaded from the Workbench disk when rebooting, if the "Workbench" switch has been activated in the "Settings of" field. If you also want these settings to remain reset-proof, set "TURBOprint". The settings however cannot then be altered by other programs.

The following are other possible settings for this menu page:

Shade

Shade determines how the colours are represented on the printer.



Colour printing

On principle, colour printouts are only possible if colour printers are used. The Amiga's various colour nuances are produced by mixing the printer's primary colours and by appropriate colour patterns.



3.2 Preferences

Gray

Grey-scale printing

Colour images are changed to different shades of grey which are produced by means of grey patterns in a similar way to pictures used in newspapers. 14 different patterns are available for TURBOprint (see page 19).

B/W

Black-and-white printing

The Amiga's colours are reduced to two. The appropriate colour is printed either as black or as white, depending on the brightness. The "b/w threshold" switch can be used to set the particular brightness from which all the colours are printed as white (see page 23).

Negative/Vertical

Negative

Negative printing

A negative-image reproduction can be selected here. This is possible for black-and-white and colour printing, and printing using shades of grey. As in a photographic negative, the image's originally black areas are printed white, dark grey becomes bright grey and vice versa.

The complementary colours, according to the colour negative, are produced when printing in colour.

Vertical

Vertical printing

This setting causes the graphic printout to be rotated clock-wise through 90 degrees. If this setting is not used, the graphic is produced as normal.

3.2 Preferences



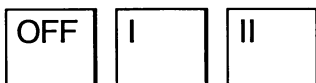
B/W threshold

B/W Threshold 08



This control is only effective if the print mode is set to "b/w". It determines the brightness up to which a colour is to be printed as black. The further to the right the control is, the brighter the colours printed black become. If the control is at 1, every screen colour except pure black will appear on the printer as white, however if the control is at 15, every screen colour except pure white will be printed as black.

Smoothing



Considerably improved printout quality is possible by using the smoothing functions, particularly for high printing densities. TURBOprint Professional offers 2 different levels of smoothing, which differ in the time taken by the computer and in the final result.

These functions are intended to smooth out "levels of steps" which appear in diagonal lines on screen graphics. Whereas the first smoothing level only converts diagonal lines, the second level also deals with the next lines up in steepness and flatness.

Edges on slopes which the smoothing functions do not directly affect are also rendered less harsh. Instead their appearance becomes gently waved.

Each curve is thus affected by the smoothing functions. The second level is used to smooth curves out more drastically than in the first level.



3.2 Preferences

Without Smoothing	Smoothing I	Smoothing II
abcdeABCDE	abcdeABCDE	abcdeABCDE
abcdeABCDE	abcdeABCDE	abcdeABCDE
abcdABCD	abcdABCD	abcdABCD

Smoothing is particularly beneficial when printing text in the graphic mode, e.g. printing out notepad documents. Of course, it is not possible to affect fonts produced by the printer itself. The smoothing functions are only effective if the printer resolution is greater than the resolution on the screen. A pixel must therefore be represented by several printer dots. The higher the printer resolution, the better the results possible using the smoothing functions.

As these functions require considerable time on behalf of the computer, printing time increases marginally, the second level taking longer than the first.

Note: Unfortunately small diamond-shaped holes may appear as unavoidable smudges in several instances when using the smoothing functions. These holes however are inevitable and are not due to a program error.

Tractor

Wide

Many printers are sold in two versions with a narrow or a wide printing roller. TURBOprint has only one driver for such printers, this driver is switched from one version to the other by means of the "Tractor" setting.

If you print on normal sized paper (A4 / approx. 8 inches wide), do not activate the switch. However you have to switch on "Wide" if

3.2 Preferences



you possess a printer with a wide roller and wish to print using sizes larger than 8 inches/ A4.

Printer Port

PAR	PAR 2	SER
-----	----------	-----

The printer interface can be selected here. If you have connected your printer to the serial interface, switch to "SER". You can choose between the Amiga "parallel.device" device driver ("PAR") and direct transfer by TURBOprint ("PAR2") when using the parallel interface.

Direct transfer allows you to increase speeds considerably, especially for laser printers and at high print resolutions. This increase in speed also saves on memory space because the workbench's parallel driver need not be loaded.

Setting the print format

Values (dimensions)

cm	Inch
----	------

The "Values" switch can be used to change the dimension for the following settings between inches and cm. You can retain the previously used sizes in number of characters ("Chars") for printing width, if you change to "inches" and input the character number divided by ten. For instance, if the printout is to be 75 characters wide, now input 7.5 inches.

It is essential to note when using cm inputs that the information is converted internally to 1/10 inch. The printing format may therefore deviate slightly from the value set.

The input data is automatically converted when changing the unit. In order to provide information on size in the following setting fields, the mouse is used to click the appropriate field and the value is then input via the keyboard. RETURN then has to be pressed.



3.2 Preferences

Left offset

Inch

Here you can set how wide a picture being printed is to be indented from the left margin. If the printout is not to be indented, it is necessary to enter zero here. If the picture is, for example, to be printed from the centre of the paper (A4 size), 4.0 inches is the correct value.

A graphic printout is only indented to the extent that the image need not be reduced and that nothing is cut off from the image to the right. If graphics being printed are already at full width it is not possible to indent any further. You can then reduce, for example, the picture's width via "Width". The following applies to printers with a narrow printing roller (for A4 lengthwise): picture width + left margin $\leq$ 8.0 inches.

The "Center" switch can be used to centre the printout. If you switch on "Center", a graphic print is always set in the centre of the paper, resulting in equal left and right margins. It is no longer necessary to set the left margin. Please take note of the roller width set.

Important: "Left offset" does not affect the left margin when printing text. Margins for text printouts continue to be set by workbench preferences in the "Margins" field.

Picture format

Ignore
Bounded
Absolute
Pixels
Multiply

3.2 Preferences



So as to indicate the size of a graphic printout, it is first of all necessary to select the method of determining the size in the "Picture format" field and then to use the "Width" and "Height" settings to adjust the width and height of the picture in the suitable unit. The following options are available:

a) Ignore

This option has been included so as to be compatible with earlier software. "Width" and "Height" have no affect, incidentally. The print size continues to be set by the margin setting for printing text ("Left margin" and "Right margin" – see "4. Workbench Preferences settings" on page 51) and the workbench preferences page length ("Length"). When using TurboPrefs, it is better to use "Bounded" together with the "Left margin" setting.

b) Bounded

Picture size is determined by the "Width" and "Height" settings. Information is given in inches or cm according to the "Values" switch setting. The picture is printed as large as possible within these limits, the correct ratio of height to width being maintained.

Width: Inch

Height: Inch

The program initiating the printout is no longer able to alter the printing size in settings c)-e). For example, when using the DPaint III program, the setting in printer dots becomes ineffective. You must therefore expect surprises concerning the printout size, particularly when using DTP programs since they divide up a page into several sections.

c) Absolute

"Absolute" differs from "Bounded" in that the dimensions directly determine the printing size. As a result, the correct height-width ratio is not observed.



3.2 Preferences

d) Pixels

If you switch over to "Pixels" the measurement unit is altered in the "Width" and "Height" fields to "Pixels", i.e. printer dots.

"Pixels" is the most precise way of determining the printout size. Changing the printer resolution therefore also affects the printout size: the higher the print density set, the smaller the picture because it is possible to print more dots over the same surface area.

e) Multiply

The width and height of a printout become a multiple of the screen graphic size (measured in printer or screen dots). "Width" and "Height" therefore indicate the printout size of one screen dot in printer dots. The overall printout width is thus obtained by multiplying the number of screen dots to be printed by "Width". The final result also depends on the printer's resolution (see d).

When using all the options of b) to e), it is possible to set one of the two "Width" or "Height" values to zero. TURBOprint calculates this value in such a way that the screen graph's height-width ratio is retained for the picture being printed.

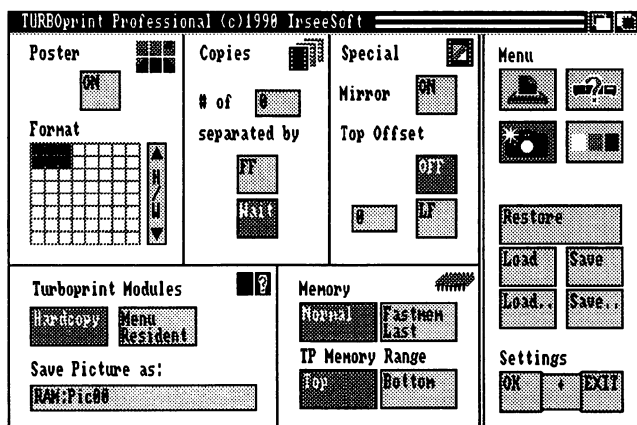
If both values are set to zero, the picture becomes as large as possible within the printer's limits.

Scaling

If "Integer" is activated for the scaling, it is only possible to increase by multiples, i.e. 1:1 or by a factor of 2, 3, 4, etc. The picture size is enlarged or reduced slightly, based on the given values ("Height" and "Width") in order that there is enlargement for multiples. The advantage of this setting is that lines which are of equal width on the screen are also always reproduced on the printer with equal width.



3.3 Menu page 3: additional functions



Copies



If you wish to have several copies of your graphics printed out, you can set this in the "# of" field. The picture next to be printed is then appropriately repeated in succession.

Important: various programs (e.g. certain text-processing or desktop-publishing programs) produce graphics in relevant sections which are normally printed one below the other. If several copies are set here, the individual page sections are each repeatedly produced one below the other, i.e. pages not printed together. Unfortunately this function cannot be used here.



You can use the additional "FF" and "Wait" selector switches to indicate what the computer is supposed to do once a printout has been completed. These functions are also effective without multiple copying.



3.3 Additional functions

"Wait" means that the computer stops before printing out and issues the message

Please insert new sheet of paper	
CONTINUE	CANCEL

After the "Continue" field has been clicked, the next copy is printed or continued after the last copy with the program which started the printout.

The "FF" is particularly important when using a laser printer, cut-sheet feeder or fanfold paper. This function causes the "form feed" command – to eject the current sheet of paper or to move forward the fanfold paper to the start of the next sheet – to be sent to the printer after a printout has been completed. In order to carry this command out correctly, it is essential that the printer be correctly set, e.g. the fanfold paper sheet length set on the printer agrees with the actual sheet length.

This function is particularly interesting for laser printers because if the paper is not ejected it is sometimes difficult to say when the printout is ready.

Mirroring

Mirror ☐ ON

Selecting the "Mirror" function causes the picture to be produced in a horizontal mirrored-image. This function is useful when printing a copy which is produced for example on the basis of special textile or transfer ink ribbons and which is to be "ironed on". If so, it is necessary to mirror the picture so that the ironed-on picture is not reversed on its side. This function not only makes it unnecessary to

3.3 Additional functions



mirror the picture "manually" by means of a paint program but also makes it possible to mirror graphics being produced from programs which only issue them directly to the printer and which do not permit subsequent processing based on paint programs.

Top offset

OFF	2	LF
-----	---	----

If several pictures are printed on top of one another or if pictures and text are combined, it is frequently desirable to leave a couple of lines free before printing the next picture. The "LF" function can be used to set this feature. To activate it, the "LF" (Line Feed) field has to be selected.

The number of empty lines which are to be issued before the picture is printed is entered in the field to the left of "LF".

Important: some programs produce graphics in several sections on the same sheet of paper. If "LF" is set, the printout will be disrupted. As a result, the "LF" function must be switched off.

The poster mode



Thanks to TURBOprint Professional, your graphics printout size is no longer restricted by the width of the printer's roller. Poster mode now enables graphic printouts to be divided up into several pages, thus being printed out individually. The graphic sections produced need only be assembled appropriately.

The poster mode is activated by selecting the "On" switch in the poster field. It is necessary to set fully the following sizes required for the poster print mode to function:

Size settings

The final format of your poster is determined by 2 sizes; that of the individual poster sections and that of the number of sections which are to make up the poster.



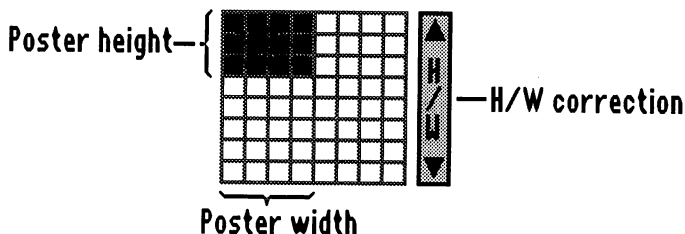
3.3 Additional functions

Each poster section is of equal size. The size of the individual poster sections is set the same as for a graph's size in the normal print mode. Consequently height and width must again be indicated using the settings on the second menu page (see "Setting print format" on page 25). The size of the individual poster sections is of course limited by the particular printer's maximum print width and height.

If the poster mode is activated and a 0 setting for width and height is given on the second menu page for the poster section size, this will be interpreted as the largest permissible value suitable. Setting the height to 0 is particularly interesting because the use of fanfold paper is assumed and the poster sections become as high as the entire poster. The picture is thus cut up into vertical strips (not if page printers are used!). The poster's height is suited to the width according to the height-width ratio set.

Dividing up into poster sections

The poster grid system on the third menu page makes it possible to indicate how many sections of equal size the picture being printed is to be divided up into. You now mark from the top left as many fields to the right as the poster is to be sections wide and as many sections downwards as the poster is to be high.



The upper left corner in the grid always represents the upper left graphic corner section. Now use the mouse to select the poster section which is to contain the graphic's lower right corner. In this way the poster can be divided up into precise sections. As a result

3.3 Additional functions



the corresponding fields in the grid are emphasized in white. If you have clicked, for example, the box in the fourth column and the third line, the picture will be produced in twelve sections (4 across and 3 down).

Correct height-width ratio

Any kind of formatted screen graphic is normally printed in the poster size set, i.e. possibly distorted. The poster size settings have to be suited to the size of the graphic being printed in order to maintain a correct height-width ratio for the entire picture. Select the "H/W" switch to keep automatically the correct height-width ratio. The poster size is corrected regarding section number and size in such a way that the overall height and width set indicate the poster's maximum dimensions.

The overall poster size is scaled down either in height or in width with the result that a correct ratio of height to width is re-established. The correction refers both to the size of the individual poster sections and to the number of sections in height and width.

Printing poster sections

Every graphic dump being produced is automatically constructed from various sections whenever the poster mode has been switched on.

The following message appears on the screen after each poster section has been completed:

POSTER SECTION COMPLETE		
Please insert new sheet!		
CONTINUE	REPEAT	CANCEL

If a poster section has not been successfully printed, it can be re-issued by selecting "Repeat". Otherwise press "Continue" to carry on poster printing. The entire poster printed can be brought to a halt via "Cancel".



3.3 Additional functions

TURBOprint modules



Hard copy

Hardcopy

The "Hard copy" switch can be used to switch the reset-proof hard copy function on or off. If the switch has been activated, you can save or print out an Amiga screen or a section of it on disk at the touch of a button, whenever you want.

Save picture as:

ram:picture00

The file name under which the hard copy function is to save a picture should be entered in the "Save picture as:" field.

TURBOprint automatically adds to this name a number which is used to distinguish between pictures saved by calling up "IFF-Save" several times.

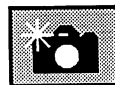
This name may of course contain a path as well. "df0:picture" therefore has the effect of saving the picture on the internal disk drive with the filename "picture". Further relevant details can be found in the section on "TURBOprint keyboard commands" on page 54.

Menu resident

Menu
resident

Switching this function on causes TURBOprint to install the menu reset-proof in the memory. After exiting from TurboPrefs, the menu can be immediately recalled without reloading by means of pressing the following key combination: CTRL + ALT + T. The advantage being that you can still alter settings quickly just before

3.3 Additional functions



printing out, neither do you need to insert the TURBOprint disk initially nor do you need to load the program. Nevertheless it must be borne in mind that this bonus feature takes up approx. 30 kilobytes of memory. If the amount of space available in the memory is restricted and as much memory as possible is required by other programs, this function should be switched off.

Memory control



Normal	Fastmem Last
--------	-----------------

The "Fastmem Last" function causes there to be no memory from a potential memory extension being distributed to programs. As a result, programs which are not compatible with a memory extension also function.

The TURBOprint "Fastmem Last" function has the major advantage, with respect to the "nofastmem" program on your workbench disk, of being reset-proof and thus also functions using programs with auto-start.

Important: you should only switch on "Fastmem Last" if you have more than 512 KB working memory and you want to use software which does not function with a memory extension. The faded-out memory extension ("Fast Memory") is not simply shut down but is again available when further memory is needed. Consequently the memory information on the workbench menu page is not reduced to 512 kB.

TP memory range

Top	Bottom
-----	--------

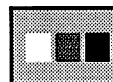
This function is used to set the point to which the reset-proof TURBOprint program code is to be loaded. When setting "Top", TURBOprint is loaded at the end of the working memory, when



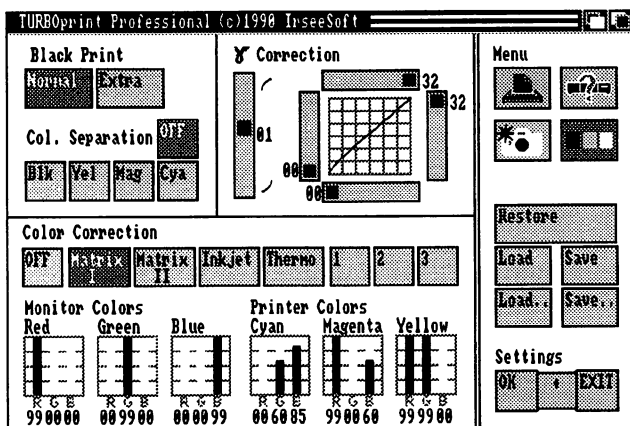
3.3 Additional functions

using "Bottom", it is loaded at the beginning of the free memory. This switch should always be set to "Top" – otherwise TURBOprint may no longer be reset-proof. "Bottom" should then only be selected if problems occur in conjunction with other reset-proof programs (ram disks, hard disk drivers and, unfortunately, viruses) – see also "10. Problems and their rectification", pages 69ff.

3.4 Colour conversion



3.4 Menu page 4: colour conversion

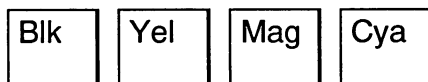


Black print

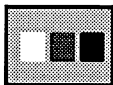


Either black or a combination of two colours (yellow, magenta or cyan) at the most are normally printed in the case of colour matrix printers. The "Extra" option can be used to produce a more intensive saturation of black surfaces, each primary colour being printed simultaneously when black is used – similar to the method adopted in offset printing.

Colour separation



Colour separation is defined as the division of a colour image into its primary colours, e.g. as used in the printing industry for producing printing plates suitable for various colours. TURBOprint Professional's colour separation makes it possible to filter out



3.4 Colour conversion

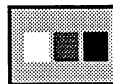
individual primary colours during a printout with the result that

- colour images can be printed on b/w printers by means of differently-coloured ink ribbons
- print copies can be created for 4-colour offset printing.

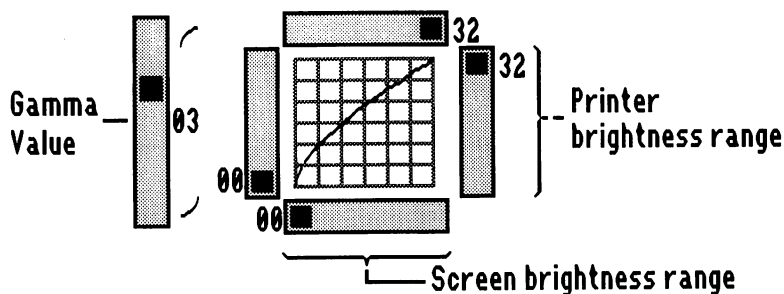
The separation process is not fully automatic (automatic printing of all four primary colours when printing out a graphic), because this results in features incompatible with several DTP programs. Instead a separate printout is created for each primary colour whereby the desired colour is selected within the colour-separation field. Any combinations other than pure primary colours (black, yellow, magenta and cyan) may also be set.

To preserve the colour extract negatives, it is also possible to switch to negative printing in the preferences page. Furthermore, when using colour correction, it is possible to separate out into any other primary colours by altering the printer's primary colours (see "Colour correction" from page 43 on).

The colour extracts are also normally printed out on colour printers in the particular ink colour. You can avoid this by setting shade = grey on menu page 2. TURBOprint Professional functions in consequence as for normal colour printing (colour correction remains effective), only the individual colour extracts are printed black and white.



Gamma correction



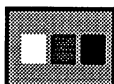
The gamma correction can be used to affect the reproduction of grey levels and/or colour brightnesses on the printer. This is brought about by setting the gamma factor and by means of degrees of brightness for the screen and printout.

The gamma factor

Normally a linear brightness-reproduction function is used, i.e. the number of black or coloured dots set on the printer is directly proportional to the image's brightness. E.g. using 16 grey levels and a grey pattern of 8x8, 4 dots more are placed when brightness decreases per grey level.

The brightness reproduction is therefore often unsatisfactory, which has two reasons:

- The monitor's brightness reproduction is not linear but logarithmic, i.e. the brightness difference between two neighbouring dark grey levels is smaller on the screen than between two bright ones.
- The printer's brightness reproduction is not linear either. Adjacent dots overlap in such a way that intermediate brightness ranges are reproduced too dark, especially when printing using a higher resolution on dot matrix printers. The images appear to be underexposed and low in contrast.



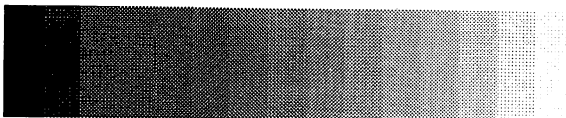
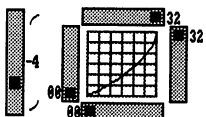
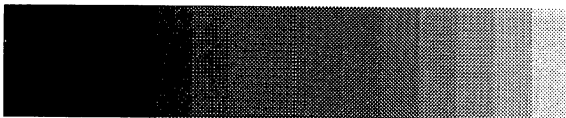
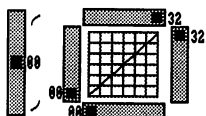
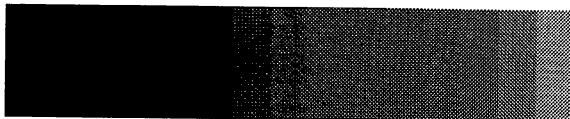
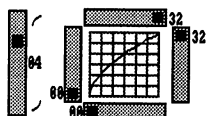
3.4 Colour conversion

The gamma correction function aims to compensate for these effects. It can be used to alter the brightness reproduction in such a way that intermediate brightness ranges appear brighter or darker on the printer, the brightest and darkest colours remaining unaffected.

The settings at a glance

Desired effect	Control settings
Image brighter	Gamma control upwards and/or Left control upwards
Image darker	Gamma control downwards and/or Right control downwards
More contrast	Lower + upper controls toward middle
Less contrast	Left + right controls towards middle

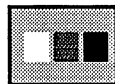
Examples of different gamma values



Setting the gamma factor

Sliding the gamma control (left sliding control) upwards (positive values) causes the intermediate range to be raised, sliding downwards (negative values) causes the range to be lowered. Reproduction is linear in the zero setting. The particular pattern of

3.4 Colour conversion



the image brightness to print brightness transfer function is indicated in the grid to the right of the control.

The following table contains suggestions as to how the gamma control can be set for various conventional printers:

Printer	Resolution	Grey pattern*	Gamma setting
9-pin	120 x 072 dpi	a	0
	240 x 144 dpi	b	+1 to +3**
24-pin	090 x 090 dpi	a	0
	180 x 180 dpi	a	+3 to +6**
	"	b	+1 to +3**
	360 x 360dpi	b	+4 to +8**
	"	c	+1 to +3**
Laser	75 – 150 dpi	a	0
	300 x 300 dpi	a	+4 to +8
	"	b	+1 to +3
	"	c	-2 to +2
Ink	up to 200 dpi	a	-2 to +2
	from 200dpi on	a	+1 to +3
	"	b/c	-2 to +2
Thermo	-	a-c	-2 to +2

* Grey pattern:

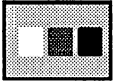
a = normal, half-tone, Floyd-Steinberg I, 4,7,10 (top)

b = 9-pin, Floyd-Steinberg II, 5,8,11 (middle pattern)

c = 6,9,12 (bottom pattern)

** in case of the dot-matrix printers: depending on ribbon saturation

The following procedure is the best one for determining the optimum gamma setting on your printer for a specific resolution and pattern: use a paint program to print the "testpic1" from your TURBOprint disk, which contains a grey scale (fields with every 16 brightness levels adjacent), using the basic setting gamma = 0. Test how the gradations between the individual brightnesses are



3.4 Colour conversion

reproduced. If the differences are too weak in the dark zone and if as a result the intermediate brightness zone appears too dark, the gamma value has to be increased. If the reverse is true (brightness jumps for the dark fields are too large, intermediate range too bright), the gamma value is reduced. You can now test the effect of the new setting and again modify the gamma value.

Setting the extent of brightness

The 4 controls for setting the degree of brightness determine the maximum grey level range for the screen graphic and printout.

Screen brightness range

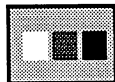
The lower and upper controls are used to set the particular screen colour which is to be applied by the darkest (lower control) or brightest (upper control) printer colour. The colours inbetween are then copied in accordance with the gamma setting on to the printer colours, all the fairly dark colours are printed very dark and all the fairly bright colours printed as bright as possible.

If the lower control is shifted to the right or the upper control to the left, the printout contrast is thus increased although the brightness gradations beyond this zone are lost. Changing the basic setting is particularly useful if the maximum grey level range is not used in the picture to be printed out, but the printout is to appear as rich in contrast as possible.

Printout brightness range

The left and right controls can be used to determine what is the darkest (left control) or brightest (right control) colour value in the printout. By sliding the left control upwards the entire image gains in brightness, by sliding the right control downwards the printout gains in darkness, altering both controls reduces the contrast.

3.4 Colour conversion



Colour correction

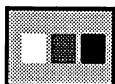
OFF	Matrix I	Matrix II	Inkjet	Thermo	1	2	3
-----	-------------	--------------	--------	--------	---	---	---

You should also read chapter "9. Introduction to colour-printing technology" (page 66) in order to gain a better understanding of colour correction. The problem associated with colour reproduction on colour printers is that the colour monitor's luminous phosphors and the printer's primary colours are not the ideal basic colours since absolutely pure colours (spectral colours) cannot be produced technically as phosphor or ink pigment.

The primary screen colour blue, normally contains, for example, a quantity of green, green in turn contains an amount of blue and red light and as a result becomes whitish. There are also deviations in the colour printer's primary colours: cyan is made impure by magenta and yellow and magenta by cyan and yellow in the case of matrix printer ribbons.

Obvious colour deviations from the monitor image to be printed result when printing out without the use of colour correction: blue becomes violet, green and light blue are printed far too dark and combined colours seem smudged. This is particularly noticeable in digitized pictures.

Colour correction is now used to try to eliminate impurities in colour reproduction. The colour spectrum of the monitor's and of the printer's primary colours are each set by means of the red, green and blue proportions. TURBOprint Professional then converts the screen colours into printer colours according to this information.



3.4 Colour conversion

Pre-defined colour-correction settings

As it is not entirely easy to set the correct values suitable for colour correction, 4 pre-settings for most conventional printer versions are available, which are selected via the corresponding selector switches (Matrix I, II, Inkjet, Thermo). The OFF switch is used to shut down correction. The bars below the sequence of switches indicate the particular proportion of red/green/blue (RGB) for the screen or printer colours.

Matrix I

Colour correction for dot-matrix printers with 4-ink ribbon. Matrix I, unlike Matrix II, only takes into account the printer ribbon's colour error.

Matrix II

As for Matrix I, but additionally with screen colour-error correction.

Inkjet

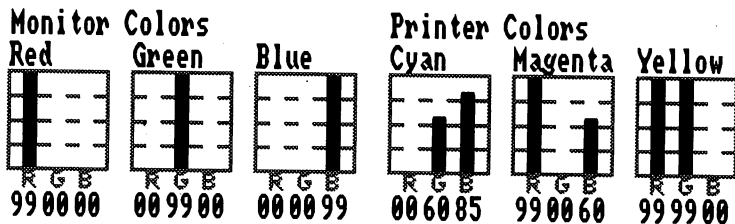
Colour correction for colour inkjet printers.

Thermo

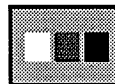
Colour correction for thermal-transfer printers.

Freely definable colour-correction settings

There are also 3 colour-correction settings which can be assigned as you see fit (switches 1, 2 and 3). Press the appropriate switch and then use the mouse to set the bar for the RGB values desired so as to assign these settings.



3.4 Colour conversion

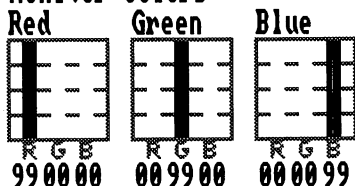


How do you find the correct settings for your printer if it does not function satisfactorily with the pre-defined values?

If you dispense with the screen colour correction:

1. Print the IFF picture "testpic2" from the TURBOprint disk when the colour correction function is switched off by using a suitable paint program (DPaint, Photolab,...).
2. You must now try to remix each of the printer colours yellow, magenta and cyan in the printout on the screen. Take a note of the RGB values!
3. The following colour-correction settings are now performed in TURBOprint Professional:

Monitor Colors



The RGB values which you have calculated using your paint program (0-15) must convert into TURBOprint values (0-99) for the primary printer colours:

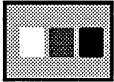
$$\text{new value} = (99 * \text{old value}) / 15$$

Set these values for the RGB controls in the primary printer colour fields yellow, magenta and cyan.

As soon as you select "OK" on the right menu page, TURBOprint checks whether a reasonable colour correction is possible on the basis of these values. If this is not so, following message appears:

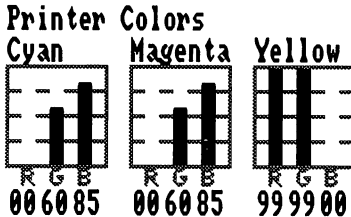
Incorrect color correction values!

OK



3.4 Colour conversion

Example: if the following setting is used

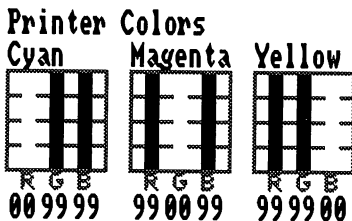


not all the colours on the printer can be reproduced because identical RGB values have been indicated for two colours.

If a screen colour correction is also desirable, the first stage must be altered as follows:

1. Set the desired values in the screen colour-correction fields (e.g. accept from Matrix II).

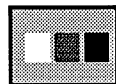
Initially the primary printer colours remain neutral:



Then print the "testpic2" with the correction switched on, and follow the instructions given at Items 2 and 3.

You should now make another printout of the test palette using the new values calculated so as to check the colour correction's effect and to perform other possible corrections or fine adjusting.

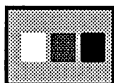
3.4 Colour conversion



Possible problems associated with colour correction

Regarding the pre-defined colour-correction settings:

- A Commodore 1084 has been used for screen colour correction. A marginally different colour representation is produced for other screens (e.g. Multisync monitors).
- The individual printers also possess varying colour reproduction within a series of printers (Matrix, Ink, Thermal printers). We tried to achieve the best results for printers used most frequently with Amiga.
- Only an incomplete colour spectrum for the screen is reproducible on the printer (particular intensive bright colours). These colours are replaced on the printout by less intensive colours. One consequence is that pictures which contain virtually only bright intensive colours are poorly reproduced on the printer since the fine gradations are lost. It is advisable in such instances to take back the controls for screen colour correction evenly by 1-2 stages. As a result, the printout becomes somewhat darker, the colour correction can however take effect once again.
- On the other hand, the whole colour spectrum of the printer does not appear on the screen representation (e.g. the printer's pure cyan). The printer's variety of colour would therefore not be used to full effect if the screen colours were corrected completely, thus only a partial correction is often desirable, indeed no correction whatsoever may be preferable.
- It is also important that the gradations in colour brightness affecting colour reproduction is even on the screen otherwise colour distortions occur despite correction. Changing the gamma curve (see "Gamma correction" on page 39) makes this possible.



3.4 Colour conversion

Colour correction for b/w printouts

The extent to which the primary monitor colours (red, green and blue) are rated when calculating brightness can be determined by means of the colour correction settings for b/w printouts. If the colour correction function is switched off, the 3 primary colours are weighted to equal extents. A distribution deviating from this can be adjusted in the freely-definable colour correction option.

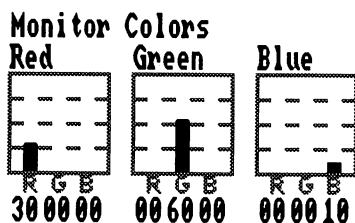
The following settings must be taken within the "Monitor colours" field:

The proportion of R in the red field indicates the desired amount of red when calculating brightness. The amount of G in the green field and the amount of B in the blue field are set in the same manner. The other adjustment controls are ignored.

Example: The conversion formula of colour to b/w images as used in PAL TV is

$$\text{brightness} = 0.3 * \text{red} + 0.6 * \text{green} + 0.1 * \text{blue}$$

If TURBOprint is to perform the same conversion, the controls for "Primary monitor colours" have to be adjusted as follows:





3.5 CLI flags for TurboPrefs

This chapter assumes the reader has basic CLI knowledge (see Amiga manual or Amiga-DOS manual).

The command line flags are various options which can be input from CLI when starting up TurboPrefs. They make it possible, for instance, to incorporate TURBOprint into a hard disk start-up sequence so that TURBOprint is automatically installed whenever Amiga is started, or for integrating TurboPrefs into command files which are performed via "Execute".

The flags are attached to the command name "TurboPrefs" in the CLI input line, e.g.:

```
TurboPrefs -q -cConfigs/tp-config -p1
```

Possible flags include

-q (quiet mode)

TurboPrefs does not open a screen but loads only the disk pre-settings and installs TURBOprint or changes the settings if TURBOprint is already installed. The behaviour is therefore equivalent to loading TurboPrefs and subsequently activating the "OK + EXIT" switch.

The following options can only be used properly in conjunction with -q

-cfilename (loading configs from a file)

The pre-settings are loaded by the "filename" file and not by "TURBOprint:Configs/tp-config", as is usually the case.



3.5 CLI flags

-p1 or -p0 (loading / not loading printer driver)

Normally the printer driver is loaded by TURBOprint only during the installation process and not when changing the settings.

-p1 can be used to reload the driver forcibly every time TurboPrefs is called up, -p0 can be used to prevent the driver loading when installing.

Examples of applying CLI flags:

Automatic installation of TURBOprint for hard disks

TURBOprint has to be transferred to the hard disk by means of the "Install" program for automatic installation and then the hard disk's startup sequence extended to include the following lines (see also "7. The Turboinstall installation program" on page 59):

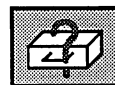
```
assign TURBOprint: DH0:TURBOprint  
TURBOprint:TurboPrefs -q
```

Loading settings for a different printer

The desired TurboPrefs settings must be stored with the "Save..." function under a file name other than the normal settings, e.g. under the name "Config2".

The settings are changed and the new printer driver loaded with

```
TurboPrefs -q -cTURBOprint:Configs/Config2 -p1
```



4. Workbench preferences settings

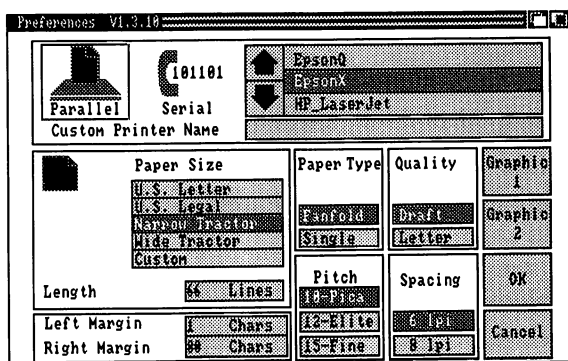
The Workbench preferences are called up by loading the system disk's "Preferences" program. These preferences permit settings which are significant in printing text. All the following information described refers to the 1.3 Workbench Preferences menu. The 2.0 Workbench manual provides all the relevant information.

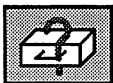
The "Preferences" program is fully described in the Amiga user manual. Consequently, only those functions which are important to TURBOprint and which cannot be set by TurboPrefs are explained again in the following section.

The main preferences menu

It is possible to exit the main menu in order to divide up into submenus which in turn contain a submenu, if necessary. There are three different ways of exiting preferences: if you do not want to accept the settings, choose "Cancel". Use "OK" to accept them and to exit the program. Use "Save" to store the settings on disk as well with the result that they are retained when rebooting with this disk.

The "Change printer" menu (Changing printer settings)





4. Workbench preferences

You have to call up the "Change printer" submenu from the main menu in order to change the following settings:

Setting the serial interface

This setting is only necessary if your printer is controlled via the serial interface. It is necessary to click the identically-named field in order to call up the "Change serial" submenu for the purposes of changing the serial interface's transfer protocol. By selecting the individual fields or cursor keys you can set the parameters needed for your printer.

The Amiga manual and your printer manual contain relevant information as to which settings are necessary. Then return to the main menu using "OK".

Length

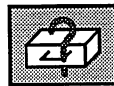
Set the length of the paper you are using in the amount of lines. A graphic printout will not be printed longer than the length of paper set. Note that the length changes with the line spacing.

Adjusting left and right margins

The field for setting the left and right margin is located at the bottom left of the screen. Use the mouse to select the field next to "Left margin" and use the keyboard to input the left margin, pressing "RETURN". The input figure indicates from which character position printing begins. 6 means, for example, that a space 5 characters wide is left at the left margin and that the first character printed commences from the 6th character position on. The same method is used to input the right margin, which is measured from the left paper margin in character widths (not from the left printing margin set previously).

Maximum width for the lines printed thus results from the differences between the left and right margin plus one.

4. Workbench preferences



Example: left margin 5, right margin 75 means that a margin of 4 characters is left on the left and 71 characters per line are printed.

The margin setters not only affect the text width but also alter the width of graphics and hard copies if "Ignore" has been set in TurboPrefs for "Picture format" on the second menu level. If so, the picture is printed out with the width matching the text. Of course, the graphic printout height is also changed when it's width is changed because the ratio of height to width is maintained.

Quality

"Print quality" determines whether text is printed in "Letter" or "Draft".

Pitch

This sets the particular font width which will be used to print. The following versions may be chosen: Pica with 10 characters per inch (cpi), Elite with 12 cpi, and Fine with 15 cpi.

Note that both the left and right margins are measured in character widths (see "Setting left and right margins" on page 52) and that by changing the pitch the margin and print widths on the paper are also changed.

Spacing

Via spacing it is possible to determine the particular gap between the lines of the text when printing. 6 lines per inch (6lpi) and 8 lines per inch (8lpi) are available.



5. Keyboard commands

5. TURBOprint keyboard commands

Hard copy function (printing out the screen's contents)

So that you can also use TURBOprint with software which does not support the printer and so that you can make snap shots from the Amiga screen in every situation, a top-quality hard copy function was also installed in the TURBOprint system. This hard copy can be called up at any time and by any program if TURBOprint has been installed and the hard copy switch has been activated in the TurboPrefs (see page 34, "3.3 menu page 3: additional functions").

Activate the key combination

CTRL **ALT** & **P**

so as to printout the current screen contents.

At the same time the CTRL and ALT keys are held down and by repressing the "P" key the print function is initiated.

Do not forget to switch on the printer beforehand! As soon as the hard copy is ready, the screen briefly flashes on. Only then can you activate the next hard copy.

If you make hard copies from the workbench screen and you want to go easy on the ribbon, you can also make use of

CTRL **ALT** & **O**

to print out the screen contents. Instead of white lettering on a dark blue background, black is printed on white.

Hard copy of picture sections

Perhaps you want to cut out picture sections and reproduce them enlarged. TURBOprint makes it possible to print out such sections.

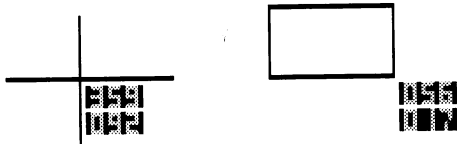
5. Keyboard commands



Use the

CTRL **ALT** & **G**

key combination to activate this function, whereupon cross-hairs appear which can be moved by the mouse.



In place of the mouse cursor, a digital display now indicates the X and Y crosshair positions. First of all, use the mouse to guide the crosshairs towards the upper left corner of the area to be printed and then click the left mouse button once. Instead of crosshairs, a box now appears which can be used to set the size of the section, similar to the box for changing the workbench field size.

The digital display now indicates the section's width and height. As soon as the left mouse button is clicked for the second time, the section is retained and the printout started. Use the ESC(ape) key to cancel the section.

TurboPrefs size settings also apply to the section's print size, i.e. the section is enlarged, usually to the print format of the entire picture.

Screen to front

The Amiga supports several screens which can be superimposed in any way. The TURBOprint hard copy always prints the very front screen or front-screen sections. Screens right at the back, if present, are brought to the front by means of the following key combination:

CTRL **ALT** & **N**



5. Keyboard commands

Cancel printout

Press

CTRL **ALT** & **C**

to cancel a printing process underway. This function not only cancels printouts which are controlled by the hard copy function but also prints which were started by other programs.

The Save-IFF function

This function can be used to save screens or sections of screens in standard IFF format on disk, ram disk or hard disk and then incorporate them into slide shows or reprocess them using a paint program. The picture files generated are also compressed so as to save on available memory space.

Just as the hard copy, the "Save-IFF" function can be called up from any programs. It is only essential for TURBOprint to have been installed, the hard copy to be activated and a valid file name to have been indicated for the purposes of saving the picture (see page 34).

Activate

CTRL **ALT** & **S**

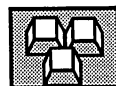
so as to save the entire screen contents. If you save various images in succession without re-adjusting the file name in TurboPrefs, the files produced are numbered continuously. If you have indicated, for example, "ram:pic" as a name, the files are produced as "pic00", "pic01", etc. on the ram disk.

If you would rather save a picture section, press

CTRL **ALT** & **A**

Then use the mouse to select the area which is to be saved. The function "print section" (CTRL + ALT & G) describes the process involved.

5. Keyboard commands



As the very front screen is always saved the combination

CTRL **ALT** & **N**

can be used to bring forwards screens behind the front one.

Calling up TurboPrefs

If you have activated the "Menu resident" switch when installing TURBOprint (see page 34), the TurboPrefs setting menu can always be called up again by means of the key combination

CTRL **ALT** & **T**

except when the hard copy function itself is on. You can perform any settings you desire in TurboPrefs, as described in Chapter 3.



6. The NoTurbo program

6. The NoTurbo program

As well as the TurboPrefs program, the "NoTurbo" program is also on the TURBOprint disk. This program is for shutting down TURBOprint and for re-releasing the memory space taken up by it. NoTurbo is started from the workbench by clicking the "NoTurbo" symbol or from CLI by inputting "TURBOprint:NoTurbo".

In consequence, a window is opened with one of the following messages:

TURBOprint is removed

TURBOprint has been successfully shut down.

TURBOprint is not installed

TURBOprint has not yet been installed.

TURBOprint is still printing

TURBOprint is still needed by a program and as a result cannot be switched off at that particular moment. After having clicked the "OK" field, this window is closed again.



7. The Turboinstall installation program

This program can be used to transfer easily and quickly the TURBOprint system on to a hard disk.

If you have such an extension and wish to install TURBOprint on it, please proceed as follows: before installing you must have booted your Amiga either from a workbench which includes your hard disk into the system, or, if possible, directly from the hard disk. As a result you ensure that your hard disk can be addressed.

Then load from the TURBOprint disk the "Turboinstall" program which opens a window with the headline

***** TURBOprint Professional hard disk installation *****

In answer to the question

Device name of hard disk (DH0:; JH0:, ...)?

enter the name of your hard disk. The device name of hard disks available from Commodore for the Amiga is "DH0:" for the standard hard disk and "JH0:" for the hard disk which is operated via the PC card.

As an alternative, you can also indicate the volume name which is the name on the workbench interface below the hard disk symbol. A colon has to be attached to it. If "Hard disk" is therefore on the screen, you must input "Hard disk:".

If however you do not want to perform the installation, simply press "Return" without further inputting. In this case, or even if the name indicated was incorrect, you obtain the message

Faulty installation

Otherwise the installation should be complete after a few minutes and the message

Installation successfully completed

should appear on the screen. After pressing the Return key, the installation program window disappears again.



7. Harddisk installation

If TURBOprint is to be installed automatically each time you boot, the hard disk start-up sequence has to be modified (see also "3.5 CLI Flags for TURBOprefs" on page 49). Open a CLI window and load the start-up sequence with the command

```
ed s:startup-sequence
```

into the text editor.

At a suitable point (behind the last line which begins with "assign") incorporate the 2 lines

```
assign TURBOprint: DH0:TURBOprint
TURBOprint:TurboPrefs -q
```

and re-save the start-up sequence (ESC key, X, Return).



8. TURBOprint used professionally

Based on the example of Deluxe Paint

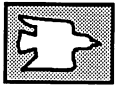
This chapter using the example of Electronic Arts' "Deluxe Paint" program (DPaint II or DPaint III version), will hopefully show the novice how the best printout results can be enticed from the printer based on TURBOprint.

If you want to get the most from this chapter, you should already have read the chapters on setting TURBOprint, produced the necessary working copy and have experimented with the setting field.

Program start

After switching on your Amiga, insert your program disk as usual and wait for the workbench screen to come on.

If you have not booted with TURBOprint, insert the TURBOprint disk into a drive and call up the contents list by twice clicking the disk symbol. Click the TURBOprint icons to start TurboPrefs first of all (this could also be seen to later from DPaint but would be more complex). As a result, the start screen is opened from where you can reach the individual menu levels using the top right menu page switches. Firstly, select the switch with the printer symbol on it and make sure that the printer driver is the right one. Select the "Workbench" field in the "settings of" field inside the second menu page (can be reached via the switch with the question mark). Consequently you ensure being able to set the formats also from DPaint. Now proceed to the third menu page using the "Camera" switch, activate "Menu resident" and then use "OK + EXIT" to exit the control panel once more. Finally load the "DPaint" program.



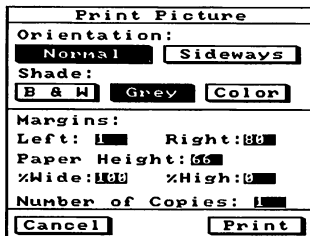
8. TURBOprint used professionally

Preparing to print out

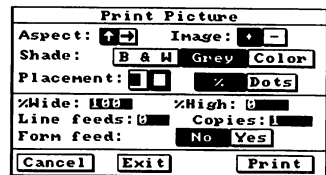
First of all call up "Load picture" from the "Picture menu" so as to load in a ready-made picture or one which you have created. You can now attempt the first printout with TURBOprint:

Settings in the "Print" menu

To do this, select the "Print" command in the "Picture" DPaint menu. An extra print window for Deluxe Paint will appear on the screen where you set the important parameters for printing.



DPaint II



DPaint III

Choose in "Shade" initially whether you want to print in colour, grey scale or b/w mode. The printout orientation (normal or sideways) is determined by "Orientation" (DPaint II) and "Aspect" (DPaint III).

If you use DPaint II you can use the left and right margins to determine the print area on the paper and hence the print-out size. DPaint III enables you to indicate the print format either as a percentage of the maximum size or in printer dots.

Using TURBOprint for initial test printing

Make sure that your printer is switched on and finally click to "Print". The printer should take a few seconds to get going and to begin printing the first line. Unless, that is, you use a laser printer to print – in which case it is necessary to wait for the overall picture to appear as a complete printout.

8. TURBOprint used professionally



You ought to be able to tell from the first print lines whether your picture actually appears on the printer. If not, the TurboPrefs or preferences settings must have been incorrect.

However there is still no need to start panicking: useful advice is at the ready for a variety of instances in Chapter 10 "Problems and their rectification".

If the printout is a success, you can proceed to the more pleasant part of the job – the wide variety of picture optimization and manipulation offered by TURBOprint.

You must now decide whether you are satisfied with the printout and whether it has reproduced the colours correctly in your opinion or whether you would have preferred the picture to be brighter or darker.

You can cancel or stop the printout process at any time using "Stop", so as not to have to print the whole picture using an unwanted setting. You can use "Cancel" to exit the print menu.

The "CTRL & ALT + T" combination enables you to reintroduce the TURBOprint control panel to the workbench screen, brought forward by pressing the key to "Amiga + N".

Print variations

For experienced Amiga users, there are two possible ways of improving printout quality:

- changing the TurboPrefs settings
- making the colours applied brighter or darker within DPaint's colour palette.

Changing the TurboPrefs settings

Your working copy of TURBOprint must also be in one of your disk drives or on a hard disk. Now, for example, you may change over the **print pattern** or select a printer driver using a different **print resolution** for your printer so as to obtain better printing reproduction. If the final result of your printing has turned out too pale or too dark, it is often possible to use the **gamma correction** to



8. TURBOprint used professionally

bring about improvements. If your printout is too pale you should reduce the gamma value. When pictures are too dark it is best to use a higher gamma value. If you do not achieve a satisfactory outcome either using a very large gamma value, you should try out a coarser print pattern or a lower print resolution. Fine patterns in conjunction with a high print density normally result in too dark printouts with poor brightness reproduction.

If you use a dot-matrix printer and the printout is uneven or lined, you can frequently reduce the number of pins or activate the **half-line mode** (setting field "Print type") so as to experience substantial improvements.

Finally it is also possible to correct the colour in the case of colour printouts (menu page 4). By way of a draft, print the same picture once again using **colour correction** suitable to your printer. More extensive alternatives are possible by using the freely-definable colour correction function (page 44).

On the second TURBOprint menu page it is now also possible, for example, to input the **direct print format** for your touched-up picture. These format adjustments only take effect as long as the "Picture format" switch is not set to "Ignore". Please find more detailed explanations on this subject in the corresponding individual function descriptions. If you set "Picture format" to "Bounded" you can now input your print format exactly as a numerical value. Having clicked the desired measurement, width and height, you can enter the values in inch or cm. The dependent second limit (width or height) is automatically suited to the precise dimension if you enter a zero ("0") into one of the two fields. The width-to-height ratio is always adjusted to the first menu level's "Width/height" control.

Finally click to "OK + EXIT" to exit TURBOprint and you can have another go at printing. It won't take long for you to get to grips with TURBOprint's variety of possibilities concerning print quality. Once you have tried out and performed variations yourself, you will

8. TURBOprint used professionally



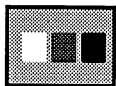
quickly experience better printing results. Unfortunately there is no one ideal setting for all the pictures. Each adjustment depends on your make of printer to a high degree. Practice makes perfect! It is almost always worth it! You are then best equipped with TURBOprint for your other print activities. Use the background switch to the right of the workbench screen's title strip to switch DPaint to the foreground again and to re-activate Dpaint by means of clicking the mouse inside the screen. Printing can continue...

Suiting the colour palette

If changing the TurboPrefs settings does not produce the desired results, it is still possible as a last resort in DPaint to correct each colour individually. Bring up the colour palette by pressing the "p" key.

Now use the mouse to select on the palette the first colour. Slide forwards the brightness control by one or more levels in order to brighten a colour. The same process applies to the other colours. Use "OK" to exit the colour palette.

From now on nothing else should go wrong and you can attempt more printouts. Once again select "Print" in the "Picture" menu. The printout should now correspond to your wishes.

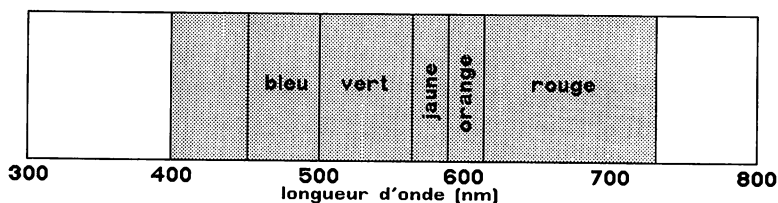


9. Colour-printing technology

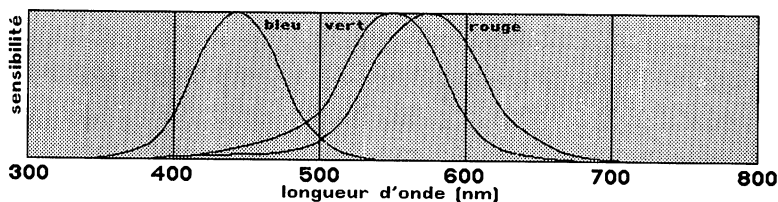
Colour perception

The representation of colour on the monitor or printer is essentially based on the human ability to perceive colour.

In physical terms, the colour which we perceive depends on the wavelength of light. Pure colours, i.e., light with quite a specific wavelength, are designated *spectral colours*. Colour nuances found in nature are normally combinations of quantities of light with varying wavelengths. White light as seen during the day is a uniform mixture of each wavelength's proportion of light.

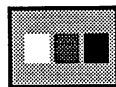


There are cones in the eye which distinguish colours – located on the retina in countless thousands. There are three kinds of cone, sensitive to red, green and blue respectively. Sensitivity, however, is not limited to a specific colour hue or to a certain light wavelength, but roughly proceeds along a pattern as shown in the following diagram:



The colour perceived depends on the intensity of the proportion of red, green or blue light contained in it, from which the original wavelength of light, and hence the colour nuance, is reconstructed. As a result of this feature inherent in colour perception, it is now

9. Colour-printing technology



unimportant for the human eye whether light actually has the "correct" wavelength or whether the colour has been created by an appropriate combination of red, green and blue light.

This is also the process used in TV sets and colour monitors. For every dot on the picture there is a colour triad made up of red, green and blue. Another alternative is to reduce suitably the quantities of colour from white light by means of colour filters (or printing inks applied to white paper) as happens in colour photographs, printing techniques or in the colour-matrix printer. Red is filtered by cyan, green by magenta and blue by yellow. Incidentally these are complementary colours. The colour printer's primary colours are therefore the complementary colours of the colour monitor's primary colours.

Colour printer operating principle

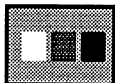
Most conventional colour printers are based on the following principle:

four primary colours (yellow, magenta = purple-red, cyan = greeny-blue, and black) which are printed either separately or in combination are available. This results in 7 colours (yellow, magenta, cyan, red = yellow + magenta, green = yellow + cyan, and black) which can be printed all-over.

In principle, yellow, cyan and magenta would suffice in depicting colour. Black is added because a combination of the 3 primary colours does not produce a pure black but a shade of brown.

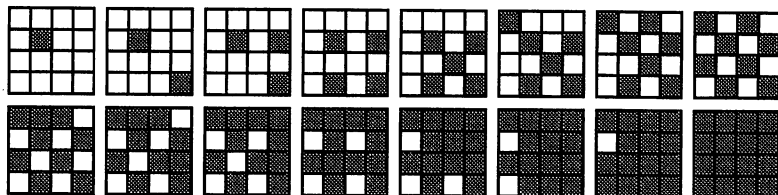
But how is it possible to depict the Amiga's 4096 colours?

It would be necessary to print the individual primary colours to varying degrees of brightness to bring this about, which is only possible in the case of a few specialized printers. Consequently the trick of "screening" the colours is resorted to. The colours are applied in a regular (normal TURBOprint pattern) or in an irregular pattern (e.g. F-S pattern) so that, as a result of colour dots used to greater or lesser extents, an impression of coloured surfaces with various intensities is achieved.

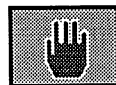


9. Colour-printing technology

A simple 4x4 grid is shown in the following diagram:



Based on the screen colours' red, green and blue components, TURBOprint now calculates the intensity of the appropriate complementary printer colours, i.e. cyan, magenta and yellow which are then printed on top of one another in three passes in the particular grid density. Depending on the menu setting, black is printed in addition to or instead of a colour on those areas where all three colours appear on top of one another.



10. TURBOprint problems and their rectification

Problems when copying or loading

- One of the following messages appears

Disk has a read/write error

Disk unreadable

Error validating disk

Source of error: the original disk or copy cannot be read. Rectifying error: produce new copy of original. If error occurred while copying or reading the original disk, it may be that your drive is blocked. Therefore try to read the disk on another drive.

Error messages in TurboPrefs

- When calling up "SAVE":

Volume TurboPrefs is write protected

Retry

Cancel

This is an Amiga Dos error message. Remove the write protection from the disk or choose "Cancel" if you do not want to save.

Important: NEVER save on to the original disk, only on to the working disk!

Settings cannot be saved

For example if you have selected Cancel in the above error message.

- When calling up "OK" or "OK + EXIT"

Please insert volume TURBOprint in any drive

Retry

Cancel

This is the request to insert the TURBOprint working copy into any drive. It appears whenever TurboPrefs has been called up by



10. Problems

pressing a key or if the working copy was not correctly renamed. Check in this last instance whether the disk name really says "TURBOprint" and change it via the workbench "Rename" function, if necessary. Ensure that there are no spaces attached before or after the name.

Task held - finish all disk activity Guru - error message

This error may occur if there is a virus in the system (see "Computer viruses" on page 71) when installing TURBOprint, or another resident program which does not assign working memory properly. Error rectification: if the problem occurs repeatedly, set the "TP memory range" switch to "Bottom" on page 3 of the menu. As a result a collision with other resident programs is avoided.

Old printer.device active Please finish printout first!

While TURBOprint is being installed for the first time, another program is simultaneously used to print something out. Complete this process and reselect "OK" or "OK + EXIT".

TURBOprint is still printing Please finish printout first!

TURBOprint has indeed already been installed but the settings cannot be changed since you are in the middle of printing out. You must also wait for the printout to finish here before being able to call up "OK" or "OK + EXIT" again.

Printer driver cannot be loaded

Should this occur, check whether the driver was correctly chosen and whether the path has not been changed since then. The driver selected is found on the line below the selection window.

10. Problems



TURBOprint is no longer in the memory after having reset

Possible reasons for this:

- TURBOprint was written over either partially or wholly by other software. This is usually only true of games which do not allocate the memory from the operating system. If TURBOprint has been partially destroyed, the alarm message (similar to "Guru meditation")

TURBOprint has been damaged - please reload!

appears briefly after resetting.

- If TURBOprint never remains reset-proof, this may be due to your using a modified kickstart disk on an Amiga 1000. Such kickstart disks are often supplied with RAM extensions so as to incorporate the additional memory. Many modified kickstart disks carry out a RAM test every time reset takes place and as a result the complete memory is erased. Consequently test whether TURBOprint stays reset-proof with the original kickstart.
- Even if you have linked up any special extensions or have integrated special utilities into the system (e.g. reset-proof RAM disks) you should check whether the problems also occur when the extensions are switched off.
- **Computer viruses**

A frequent problem is that posed by computer viruses. These are brief programs brought into circulation by pirate copiers and which are copied to other disks by independent means. In the meantime, unfortunately, they have sometimes been extended via public-domain software too. Viruses can destroy important data and provoke system crashes. They are normally also reset-proof and eject other reset-proof utilities such as TURBOprint from the computer. How can you identify whether your Amiga is affected by a virus?

This is not at all easy because there are many different kinds of virus, some easier to detect than others. Suspicious behaviour includes the following:



10. Problems

Boot-intros no longer appear during the opening of the boot-block, or the screen suddenly goes dark blue and the computer no longer reacts to input data. Another indication is if it is possible to boot using disks which are recently formatted but which have not yet been treated with the install command. If you want to play safe, you should acquire a virus checker which is used to check disks for virus attacks and which can immediately eliminate these pests.

Printing errors

It is totally impossible to print

Has TURBOprint already been loaded?

Error rectification: reload TURBOprint, perhaps switch computer off and on beforehand (wait 10 sec).

Is the correct printer driver set?

Error rectification: check printer driver set, perhaps readjust

Are the preferences set correctly?

A printout may be totally ruined by the following incorrect settings:

- incorrectly set interface (serial/parallel)
- in the case of the serial interface; incorrect Baud rate, etc.
- colour set when using a b/w printer
- incorrect printer driver selected (see above)

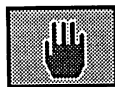
Is the printer correctly connected?

Check the connection cable to the printer and the printer mains connection cable.

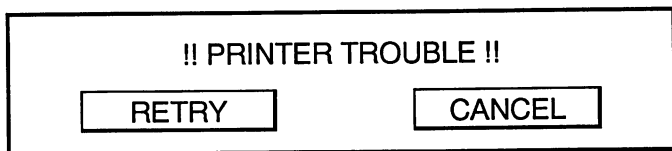
Is the memory too limited?

If you want to print without memory extension with 512 K using a graphic program with a fairly high screen resolution and colour number, TURBOprint may perhaps no longer create the buffer memory necessary for printout. Check whether the printout is possible in a lower screen resolution or with less colours.

10. Problems



The printer problem message appears



Is the printer switched on and correctly connected up?

Is the paper inserted?

Is the printer "on line" (ON LINE or SELECT key on printer)?

Has the correct printer port been selected? (see "Printer Port", page 25).

Eliminate error and use "RETRY" to continue printing or use "CANCEL" to abort.

Instead of a graphic printout only a jumble of letters appears or the printout is marred.

Has a printout previously been cancelled?

Error rectification: switch printer on and off again.

Repeat attempt at printing.

Is the correct printer driver set?

Are the preferences correctly set?

See above for error rectification (printer problem message).

Diacritic marks (umlauts/accents) or other print attributes (bold, underline, etc.) are not reproduced properly when printing text.

Is the printer driver set correctly?

Are the preferences set correctly?

Error rectification: see "It is totally impossible to print", page 72.

Is the printer correctly set (DIP switch on the printer, etc.)?

Error rectification: look up in printer manual whether different national character sets or emulations can be set. Check DIP switch settings on printer.



10. Problems

No colour printing

Picture appears in wrong format

Check settings in the second menu page:

- Is the "Shade" switch on "Colour"?
- Is "Tractor" set to "Wide" (for printers with a wide print roller)?
- Are left and right margins correctly set in workbench preferences (should "Picture format" be set to "Ignore") or are the values in the "Height" and "Width" fields correct?

Problems with the hard copy or Save-IFF function

Unfortunately not all programs allow the production of hard copies or saving processes. In the main, exceptions are found in games which have been programmed so that they claim the entire computer for themselves and do not allow any other influences, e.g. keyboard queries.

There may also be problems with various slide shows if they do not open a screen via the operating system but have direct access to hardware. Instead of a slide show picture, the workbench screen is frequently printed out or saved.

Miscellaneous error messages

WARNING: memory is low!

RETRY

CANCEL

Normally the screen to be printed is temporarily saved as long as there is sufficient free memory space in the computer. You can therefore change the screen's contents during printing or saving without affecting the printout.

If the memory capacity is reaching its limits, a message gives you ample warning. Nevertheless if you wish to continue, use the mouse to click the "Retry" field. Choose "Cancel" to abort.



ERROR: not enough memory!

The amount of memory available is so limiting that it is impossible to print out or to save. If this message appears when saving a section, you can still try to save the whole screen. This is often much easier than saving a large section!

Error message in the hard copy

ERROR: printing not possible!

No hard copy can be produced. This error occurs if

- the printer is already occupied with other tasks
- the preferences have been incorrectly set.

Error messages in Save-IFF

ERROR when opening file!

The file cannot be opened. This error occurs if an inadmissible file name has been indicated or the drive specified is unavailable.

ERROR when saving!

An error has occurred during writing on the file. e.g. because the disk is full. The picture is incompletely saved and it is frequently impossible to load it.



11. Registration

11. TURBOprint Registration

TURBOprint Professional users should not do without the IrseeSoft Service. We are involved with keeping you up to date with innovations from the IrseeSoft company, extensions and new versions of TURBOprint. Naturally an update/upgrade service as previously offered to all TURBOprint I and TURBOprint II users will also be available for registered TURBOprint Professional users regarding possible follow-up versions.

In order to make use of this service it is necessary to send in the registration card, properly filled out. Please send this registration card inside an envelope with adequate postage attached, with a copy of the receipt of purchase if possible, to the address below.

IrseeSoft SPCS
– TURBOprint Registration –
Am Schlachtbichel 1
D-8951 Irsee
Germany

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